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EXAMINER	
SONG, SARAH U	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/727,735	DUESTERBERG ET AL.	
	Examiner	Art Unit	
	Sarah Song	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-21 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 04 December 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1203.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The prior art documents submitted by the applicant in the Information Disclosure Statement filed on December 4, 2003 have all been considered and made of record (note the attached copy of form PTO-1449).

Drawings

2. This application has been filed with three (3) sheets of drawings, which have been approved by the Examiner.

Claim Objections

3. Claim 1 is objected to because of the following informalities: in line 6, Examiner believes that "solder" is intended to be –metal–. Appropriate correction is required.

4. Claims 6 and 7 are objected to because of the following informalities: "the other layer" lacks proper antecedent basis. Examiner believes that "layer" is intended to be –region–. See the recitation of "other layer" in line 2 of claim 7 also. Appropriate correction is required.

5. Claims 8 and 13 are objected to because of the following informalities: "the laser diode" lacks proper antecedent basis. Examiner suggests deleting "diode". Appropriate correction is required.

6. Claim 12 is objected to because of the following informalities: Examiner suggests inserting a comma "," between "first" and "second". Appropriate correction is required.

7. Claim 17 is objected to because of the following informalities: ", and wherein any unsoldered metallized" appears to be an incomplete sentence fragment. Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 1, 5, 8, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ecker et al. (U.S. Patent 5,241,614).**

10. Regarding claims 1, 8 and 13, Ecker et al. discloses an optical fiber pigtail assembly comprising: a) a laser 90 disposed within a housing 10; and, b) an optical fiber pigtail comprised of an optical fiber 23 disposed within an opening (through assembly 20) of said housing, said optical fiber pigtail having an end 97 for coupling light there into from the laser diode, the optical fiber pigtail having a first region 77 about the end that is metallized and soldered fixedly with respect to said housing (column 6, lines 31-33), the optical fiber pigtail having a second metallized region 37 spaced from the first region 77 by an other region (see sentence spanning columns 5 and 6) wherein the second region is soldered to the housing about the opening to provide a seal therewith (column 6, lines 13-18), said other region being absent of metal. Regarding the language to lessen or minimize "heating that may otherwise occur in the presence of a high intensity light from the laser passing therethrough", since the disclosed fiber of Ecker et al. meets the claimed structural limitations, the disclosed fiber appears to also meet the functional limitation of lessening or minimizing heating that may occur. Ecker et al. also discloses lensing means 88 for coupling light from the laser into the fiber end.

11. Regarding claim 5, at least a portion of the span of fiber has a cladding layer (i.e. cable jacket) stripped away prior to providing the metallized regions. See Figure 2.

12. Regarding claim 12, the first, second and other regions form discernable bands about the fiber optic pigtail.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. **Claims 2, 3, 4, 6, 7, 9-11, 14-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ecker et al.**

15. Regarding claim 2, the first regions 77 is metallized by a first band of metal surrounding said fiber, and the second region 37 is metallized with a second band of metal surrounding said fiber. See column 5, line 64-68 and column 6, lines 1-2. Ecker et al. also discloses the other region to be a band of optical fiber that is stripped, but does not expressly disclose a buffer on a length of the optical fiber adjacent to said span. However, optical fiber cables, such as that disclosed by Ecker et al., are well known in the art to comprise buffers for protection and strength of the optical fibers within the cable. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made that the assembly of Ecker et al. comprises the other region which is a band of optical fiber that is stripped of a buffer remaining on a length of the optical fiber adjacent to said span. The buffered region adjacent the

span would have been obvious in order to provide improved mechanical strength of the optical fiber.

16. Regarding claim 3, Ecker et al. discloses the housing having snout (see Figure 1), wherein said laser 90 is disposed in said housing. Furthermore, the fiber 23 is mounted within the housing and soldered at the first and second metallized regions, the second metallized region being soldered at the snout. See column 6, lines 11-18. Ecker et al. also discloses a lens 88, but does not expressly disclose the fiber having the lens. Lensed fiber pigtails are well known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the lensed fiber in place of the separate lens 88 in order to provide ease of assembly by reducing the number of components to be aligned.

17. Regarding claims 4 and 6, Ecker et al. does not expressly disclose that the other region is coated with a protective coating after the buffer is stripped away. However, protective coatings for covering over bare fiber portions are well known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a protective coating over the other region after the buffer is stripped away in order to protect the fiber from damage.

18. Regarding claim 7, Ecker et al. does not expressly disclose the fiber in the first, second and other layer are pre-coated with a protective dielectric layer prior to coating the first and second regions with metal. However, it is well known in the art to precoat optical fibers with a dielectric in order to reduce stresses on the fiber due to the metallization. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to pre-coat with a protective dielectric in order to reduce stresses on the fiber.

19. Regarding claim 9, Ecker et al. also discloses a lens 88, but does not expressly disclose the end of the fiber having the lens. Lensed fiber pigtails are well known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the lensed fiber in place of the separate lens 88 in order to provide ease of assembly by reducing the number of components to be aligned.

20. Regarding claim 10, Ecker et al. does not expressly disclose that the other region is coated with a material to protect the fiber from handling. However, protective coatings for covering over bare fiber portions are well known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a protective coating over the other region after the buffer is stripped away in order to protect the fiber from damage.

21. Regarding claim 11, Ecker et al. does not expressly disclose the first and second regions to be coated with said material prior to being metallized. However, it is well known in the art to in order to reduce stresses on the fiber due to the metallization. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to coat the first and second regions with said material in order to reduce stresses on the fiber. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to coat the entire fiber with said material in order to simplify the coating process.

22. Regarding claim 14 and 15, Ecker et al. does not expressly disclose a multimode fiber. However multimode fibers are well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a multimode fiber in order to ease alignment tolerances.

23. Regarding claims 16-18, Ecker et al. does not expressly disclose the lengths of the soldered and unsoldered potions, or of the metallized and unmetallized portions. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the claimed dimensional specifications, since it has been held that discovering an optimum value or a result effective variable involves only routine skill in the art. MPEP 2144.05(II)(B). Note also column 5, line 68 through column 6, line 2

24. **Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ecker et al. in view of Jang et al. (U.S. Patent 6,608,959).**

25. Regarding claim 19, 19. Ecker et al. discloses a method of fabricating an optical fiber pigtail assembly comprising the steps of: fixedly providing a laser diode 90 within a housing 10 in a predetermined orientation; stripping a portion of an optical fiber to provide an optical fiber pigtail; coating to metallize at least two separate regions of the optical pigtail so as to leave an uncoated region there between, the uncoated region being substantially larger than each of the coated regions; placing the optical fiber pigtail in the housing such that an end of the pigtail is oriented to couple light form the laser diode; and soldering the at least two metallized regions. See Paragraph spanning columns 5 and 6; Figures 2 and 8.

26. Ecker et al. does not expressly disclose grasping the pigtail end with tweezers having non-metallic grasping ends, and also does not expressly disclose soldering the metallized regions to solder pads within the housing.

27. Jang et al. discloses the step of positioning a fiber pigtail comprising grasping the pigtail end with tweezers. See Figure 6. Jang et al. does not expressly disclose non-metallic ends. Tweezers comprising non-metallic grasping ends are well known. It would have been obvious to

one having ordinary skill in the art at the time the invention was made to provide non-metallic grasping ends in order to provide a frictional surface for excellent grip without undue pressure.

28. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Ecker et al. to comprise the step of grasping the pigtail end with tweezers having non-metallic ends in order to simplify alignment via automation and also to provide excellent gripping of the fiber without application of undue pressure.

29. Furthermore, solder pads are well known in the art. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to solder the metallized regions to solder pads within the housing in order to simplify the soldering operation.

30. Regarding claim 20, one of the metallized regions furthest away from the end of the pigtail is soldered to a snout. See column 6, lines 11-18.

31. Regarding claim 21, Ecker et al. does not expressly disclose the step of placing a getter within the housing. Getters are well known in the art for reducing moisture in hermetic housings. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place a getter within the housing to ensure optimal operating conditions of the device.

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nemirovsky et al. discloses a metallized fiber having two discrete metallized portions. Whitney et al. discloses a hermetic package comprising a getter (column 1).

33. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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